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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,794	03/24/2004	Eric C. Stelter	10504	4241

7590 12/19/2006  
MARK G. BOCCHETTI  
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ROCHESTER, NY 14650-2201

EXAMINER
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GOLDBERG, BRIAN J

ART UNIT	PAPER NUMBER
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2861

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/19/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.



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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/807,794	STELTER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brian Goldberg	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 October 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_



## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1-22 are objected to because of the following informalities:
2. Regarding claim 1, the claim recites the limitations "the one or more passages not-couple" in line 12 of the claim and "the internal passageways" in line 14 of the claim. There is insufficient antecedent basis for these limitations in the claim.
3. Regarding claim 4, the claim recites the limitation "the custom color" in lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. Claims 1-5, 8, 11-17, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over German et al. in view of Sharma (US 6550892).
6. Regarding claim 1, German et al. disclose "a first primary color chamber (12A of Fig 1); a second primary color chamber (12B of Fig 1); a custom color chamber (16 of Fig 1); a first pump operative to dispense a measured amount of ink from the first primary color chamber to the custom color chamber (14 of Fig 1); a second pump operative to dispense a measured amount of ink from the second primary color chamber to the custom color chamber (the same part indicated by 14, but below 12B); a



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print head operative to print with ink from the custom color chamber (44 of Fig 1)."

German et al. do disclose that the pump motor routes ink via two outlets that are isolated from each other, but do not explicitly state internal passages within the pump acting as a feed valve as claimed. Thus German et al. meet the claimed invention except "a feed valve with one or more internal passages coupled to the custom color chamber and the one or more passages not-coupled to the custom color chamber to alternately direct purging fluid or ink from one of the chambers such that the internal passageways connected and non-connected to the custom color chamber both allow passage of fluid."

7. Sharma teaches "a feed valve with one or more internal passages coupled to the custom color chamber and the one or more passages not-coupled to the custom color chamber to alternately direct purging fluid or ink from one of the chambers such that the internal passageways connected and non-connected to the custom color chamber both allow passage of fluid (see passages 20, 26 of Fig 1 and valve 21,28 of Fig 2, with custom color chamber 30 of Fig 1)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a feed valve as claimed within the system of German et al. One would have been motivated to so modify German et al. for the benefit of obtaining desired color balance on demand while limiting clogging, as stated by Sharma.

8. Regarding claim 2, German et al. further disclose "n primary color chambers, where n is an integer number greater than 2 (12A-N of Fig 1)."



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9. Regarding claim 3, German et al. further disclose "n custom color chambers, where n is an integer number greater than 1 (Fig 3 and col 12 ln 20-25)."

10. Regarding claim 4, German et al. further disclose "a purging fluid reservoir and a purging fluid source operative to purge the custom color with purging fluid (col 7 ln 47-48, col 9 ln 1-2, 18-35, col 11 ln 55-58, and 22, 24 of Fig 1)" and Sharma discloses purging "via the internal passageways not-connected to the custom color chamber (26 of Fig 1)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a feed valve as claimed within the system of German et al. One would have been motivated to so modify German et al. for the benefit of obtaining desired color balance on demand while limiting clogging, as stated by Sharma.

11. Regarding claim 5, German et al. further disclose "at least one low level sensor positioned to sense a low fluid level in at least one of the first primary color chamber, the second primary color chamber, and the custom color chamber (col 11 ln 31-40, senses level in custom color chamber)."

12. Regarding claim 8, German et al. further disclose "a purging fluid reservoir and a purging fluid pump operative to purge the print head with purging fluid (col 7 ln 47-48, col 9 ln 1-2, 18-35 in which it is stated that the valve could be a pump, col 11 ln 55-58, and 22, 24 of Fig 1)" and Sharma discloses purging "via the internal passageways not-connected to the custom color chamber (26 of Fig 1)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a feed valve as claimed within the system of German et al. One would have been motivated to



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so modify German et al. for the benefit of obtaining desired color balance on demand while limiting clogging, as stated by Sharma.

13. Regarding claim 11, German et al. further disclose "a purging fluid reservoir (col 7 ln 61-63, col 11 ln 55-58); a purging fluid pump operative to direct purging fluid from the purging fluid reservoir to the feed valve (col 9 ln 18-35)" and Sharma discloses "the feed valve being operative to alternatively direct purging fluid from the purging fluid pump or ink from the custom color chamber to the print head so all the internal passageways, connected and not-connected to the custom color chamber, are moving either purge fluid or ink (see passages 20, 26 of Fig 1 and valve 21,28 of Fig 2, with custom color chamber 30 of Fig 1)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a feed valve as claimed within the system of German et al. One would have been motivated to so modify German et al. for the benefit of obtaining desired color balance on demand while limiting clogging, as stated by Sharma.

14. Regarding claim 12, German et al. disclose "a purging fluid reservoir (col 7 ln 61-63, col 11 ln 55-58); a purging fluid pump operative to direct purging fluid from the purging fluid reservoir to the feed valve (col 9 ln 18-35); the feed valve being operative to alternatively direct purging fluid from the purging fluid pump or ink from the custom color chamber to the print head without generating bubbles in the feed valve (col 9 ln 18-35, see Fig 1)."



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15. Regarding claim 13, German et al. disclose "a dispensing valve operative to dispense a predetermined quantity of ink into the custom color chamber (14 of Fig 1, col 11 ln 1-8)."

16. Regarding claim 14, German et al. disclose "an ink sensor positioned to sense a color of ink in the custom color chamber (54 of Fig 2, col 11 ln 9-12).

17. Regarding claim 15, German et al. disclose "a controller (60 of Fig 2) operative to report the color of ink in the custom color chamber to a print apparatus operator (col 11 ln 9-16)."

18. Regarding claim 16, German et al. disclose "a controller (60 of Fig 2) operative to induce dispensing of ink from one or more of the primary color chambers into the custom color chamber in order to match a color of ink in the custom color chamber to a predetermined custom color of ink (col 11 ln 1-9)."

19. Regarding claim 17, German et al. disclose "an ink sensor positioned to sense a color of ink in the custom color chamber (54 of Fig 2); and a controller (60 of Fig 2) operative to induce dispensing of ink from one or more of the primary color chambers into the custom color chamber in order to match the color of ink in the custom color chamber to a predetermined custom color of ink with feedback from the ink sensor (col 11 ln 1-9)."

20. Regarding claim 22, German et al. disclose "the custom color chamber being removable from the print apparatus (col 12 ln 35-39, col 14 ln 15-17)."

21. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over German et al. in view of Sharma and further in view of Karlinski et al. (US 6485137).



German et al. in view of Sharma disclose the claimed invention as set forth above with respect to claim 5 as well as a controller (60 of Fig 2 of German et al.) and a low level sensor (col 11 ln 31-40 of German et al.). Thus German et al. in view of Sharma meet the claimed invention except having the controller be "operative to halt printing by the print head in response to the at least one low level sensor sensing a low fluid level and to notify a print apparatus operator."

22. Karlinski et al. teach having a controller "operative to halt printing by the print head in response to the at least one low level sensor sensing a low fluid level and to notify a print apparatus operator (col 2 ln 45-52)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the controller stop printing due to a low fluid level. One would have been motivated to so modify German et al. in view of Sharma for the benefit of preventing operation of the printer when there is low or no ink in the printhead channels which may damage certain components of the printhead.

23. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over German et al. in view of Sharma and further in view of Nakamura (US 20050083367). German et al. in view of Sharma disclose the claimed invention as set forth above with respect to claim 8. Thus German et al. in view of Sharma meet the claimed invention except "at least one low level sensor position to sense a low fluid level in the purging fluid reservoir."

24. Nakamura teaches "at least one low level sensor positioned to sense a low fluid level in the purging fluid reservoir (Par [0072])." It would have been obvious to one of



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ordinary skill in the art at the time of the applicant's invention to include a low level sensor in the purging fluid reservoir. One would have been motivated to so modify German et al. in view of Sharma for the benefit of ensuring that there is enough purging fluid to clean the channels sufficiently to avoid color mixing.

25. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over German et al. in view of Sharma and further in view of Donahue et al. (US 6494553). German et al. in view of Sharma disclose the claimed invention as set forth above with respect to claim 8, as well as a controller (60 of Fig 2 of German et al.). Thus German et al. in view of Sharma meet the claimed invention except having the controller be "operative to halt printing by the print head in response to the at least on low level sensor sensing a low fluid level (col 4 ln 66- col 5 ln 3)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the controller stop printing due to a low fluid level. One would have been motivated to so modify German et al. in view of Sharma for the benefit of preventing operation of the printer when there is low or no fluid in the channels, which may damage certain components of the printhead.

26. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over German et al. in view of Sharma and further in view of Baker et al. (US 6832824). German et al. in view of Sharma disclose the claimed invention as set forth above with respect to claim 1 as well as "a controller (60 of Fig 2 of German et al.) operative to induce dispensing of ink from one or more of the primary color chambers into the custom color chamber in order to match a color of ink... to a predetermined... color of ink (col 11 ln 1-9 of German et al.)." Thus German et al. in view of Sharma meet the



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claimed invention except "a print sensor positioned to sense a color of ink printed by the print head," the controller being able to "report the color of ink printed by the print head to a print apparatus operator," and the controller matching a color of ink to a predetermined color of ink operation being able use "a color of ink printed by the print head."

27. Baker et al. teach "a print sensor positioned to sense a color of ink printed by the print head (see abstract ln 2-3)," and the controller being able to "report the color of ink printed by the print head to a print apparatus operator (by way of the display 11)." The apparatus disclosed by German et al. was able to match a color of ink sensed in the custom color chamber to a predetermined custom color of ink. Thus, with the addition of a sensor to sense the color of ink printed by the print head, it would then be able to match a color of ink sensed after printing by the print head to a predetermined color. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have a print sensor sense a color of ink printed by the print head and report the color of ink to a print apparatus operator. One would have been motivated to so modify German et al. in view of Sharma for the benefit of making the apparatus more robust by matching the color in the custom color chamber and printed by the print head to a predetermined color, and taking into consideration that colors may appear differently on different media.

### ***Response to Arguments***

28. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***

29. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goldberg whose telephone number is 571-272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian Goldberg   
AU 2861  
December 12, 2006

  
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SUPERVISORY PATENT EXAMINER